



STIC Search Report

Biotech-Chem Library

STIC Database Tracking Number: 163996

TO: Everett White
Location: rem/5d24/5c18
Art Unit: 1623
Thursday, May 26, 2005

Case Serial Number: 10/681560

From: Mary Jane Ruhl
Location: Biotech-Chem Library
Remsen 1-A-62
Phone: 571-272-2524

maryjane.ruhl@uspto.gov

Search Notes

Examiner White,

Here are the results for your recent search request.

Please feel free to contact me if you have any questions about these results.

Thank you for using STIC services. We appreciate the opportunity to serve you.

Sincerely,

Mary Jane Ruhl
Technical Information Specialist
STIC
Remsen 1-A-62
Ext. 22524





STIC SEARCH RESULTS FEEDBACK FORM

Biotech-Chem Library

Questions about the scope or the results of the search? Contact ***the searcher or contact:***

Mary Hale, Information Branch Supervisor
Remsen Bldg. 01 D86
571-272-2507

Voluntary Results Feedback Form

➤ I am an examiner in Workgroup: Example: 1610

➤ Relevant prior art **found**, search results used as follows:

- ☐ 102 rejection
- ☐ 103 rejection
- ☐ Cited as being of interest.
- ☐ Helped examiner better understand the invention.
- ☐ Helped examiner better understand the state of the art in their technology.

Types of relevant prior art found:

- ☐ Foreign Patent(s)
- ☐ Non-Patent Literature
(journal articles, conference proceedings, new product announcements etc.)

➤ Relevant prior art **not found**:

- ☐ Results verified the lack of relevant prior art (helped determine patentability).
- ☐ Results were not useful in determining patentability or understanding the invention.

Comments:

Drop off or send completed forms to STIC-Biotech-Chem Library Remsen Bldg.



STIC-Biotech/ChemLib

153998

me

From: Unknown@Unknown.com
Sent: Thursday, May 19, 2005 7:38 PM
To: STIC-Biotech/ChemLib
Subject: Generic form response

ResponseHeader=Commercial Database Search Request

AccessDB#=

LogNumber=

Searcher=

SearcherPhone=

SearcherBranch=

MyDate=Thu May 19 19:37:04 EDT 2005

submitto=Biotech01@uspto.gov

Name=Everett White

Empno=67057

Phone=571-272-0660

Artunit=1623 5C18

Office=REM 5D24

Serialnum=10/681,560

PatClass=536/20 & 536/124

Earliest=October 8, 2003

Format3=email

Searchtopic=Please seach a water-soluble chitosan having low endotoxin content.

Claim 24 of the case reads

A water-soluble chitosan having low endotoxin content form by the method of Claim 1, wherein the water-soluble chitosan having low endotoxin content comprises less than about 100 equivalent units (e.u.) of endotoxin per gram of dry water-soluble chitosan.

Keywords:
water-soluble chitosan
low endotoxin

Comments=Daily from 11:00 to 6:00

send=SEND

STAFF USE ONLY

Searcher:_____
Searcher Phone: 2-_____
Date Searcher Picked up:_____
Date Completed: 5/26_____
Searcher Prep/Rev. Time:_____
Online Time:_____

Type of Search
NA#:____ AA#:_____
Interference:____ SPDI:_____
S/L:____ Oligomer:_____
Encode/Transl:_____
Structure#:____ Text:_____
Inventor:____ Litigation:____

Vendors and cost where applicable
STN:_____
DIALOG:_____
QUESTEL/ORBIT:_____
LEXIS/NEXIS:_____
SEQUENCE SYSTEM:_____
WWW/Internet:_____
Other(Specify):_____

STIC-Biotech/ChemLib

153998

mg

From: Unknown@Unknown.com
Sent: Thursday, May 19, 2005 7:38 PM
To: STIC-Biotech/ChemLib
Subject: Generic form response

ResponseHeader=Commercial Database Search Request

AccessDB#=

LogNumber=

Searcher=

SearcherPhone=

SearcherBranch=

MyDate=Thu May 19 19:37:04 EDT 2005

submitto=Biotech01@uspto.gov

Name=Everett White

Empno=67057

Phone=571-272-0660

Artunit=1623

5018

Office=REM 5D24

Serialnum=10/681,560

PatClass=536/20 & 536/124

Earliest=October 8, 2003

Format3=email

Searchtopic=Please search a water-soluble chitosan having low endotoxin content.

Claim 24 of the case reads

A water-soluble chitosan having low endotoxin content form by the method of Claim 1, wherein the water-soluble chitosan having low endotoxin content comprises less than about 100 equivalent units (e.u.) of endotoxin per gram of dry water-soluble chitosan.

Keywords:

water-soluble chitosan

low endotoxin

Comments=Daily from 11:00 to 6:00

send=SEND

STAFF USE ONLY

Searcher:_____
Searcher Phone: 2-_____
Date Searcher Picked up:_____
Date Completed:_____
Searcher Prep/Rev. Time:_____
Online Time:_____

Type of Search

NA#:____ AA#:_____
Interference:____ SPDI:_____
S/L:____ Oligomer:_____
Encode/Transl:_____
Structure#:____ Text:_____
Inventor:____ Litigation:____

Vendors and cost where applicable

STN:_____
DIALOG:_____
QUESTEL/ORBIT:_____
LEXIS/NEXIS:_____
SEQUENCE SYSTEM:_____
WWW/Internet:_____
Other(Specify):_____

=> d his ful

FILE 'HCAPLUS' ENTERED AT 17:34:44 ON 26 MAY 2005

L1 E HUNG WILLIAM M/AU
51 SEA ABB=ON ("HUNG WILLIAM M"/AU OR "HUNG WILLIAM M W"/AU OR
"HUNG WILLIAM MO WEI"/AU)
E BERGBAUER KATRINA L/AU
L2 9 SEA ABB=ON "BERGBAUER KATRINA L"/AU
E SU KAI C/AU
L3 117 SEA ABB=ON ("SU KAI"/AU OR "SU KAI C"/AU OR "SU KAI CHIANG"/AU
)
E WANG GUIGUI/AU
L4 21 SEA ABB=ON ("WANG GUIGEN"/AU OR "WANG GUIGING"/AU OR "WANG
GUIGUI"/AU OR "WANG GUIHAI"/AU)
E WAGES SHERRY/AU
L5 6 SEA ABB=ON ("WAGES SHERRY"/AU OR "WAGES SHERRY A"/AU OR
"WAGES SHERRY ANN"/AU)
L6 1 SEA ABB=ON L1 AND L2 AND L3 AND L4 AND L5
L7 ANALYZE L6 1-1 CT : 6 TERMS

FILE 'REGISTRY' ENTERED AT 17:39:27 ON 26 MAY 2005

L8 1 SEA ABB=ON CHITOSAN/CN

FILE 'REGISTRY' ENTERED AT 17:40:34 ON 26 MAY 2005

L9 1 SEA ABB=ON WATER/CN

FILE 'HCAPLUS' ENTERED AT 17:40:45 ON 26 MAY 2005

L10 775 SEA ABB=ON (L8 OR ?CHITOSAN?)(6A)((L9 OR ?WATER? OR H2O)(W)?SO
LUB?)
L11 2 SEA ABB=ON L10 AND ?ENDOTOXIN? *2 cit's from CAPLUS*

FILE 'MEDLINE, BIOSIS, EMBASE, WPIDS, JICST-EPLUS, JAPIO' ENTERED AT
17:42:26 ON 26 MAY 2005

L12 4 SEA ABB=ON L11
L13 4 DUP REMOV L12 (0 DUPLICATES REMOVED)

FILE 'MEDLINE, BIOSIS, EMBASE, WPIDS, JICST-EPLUS, JAPIO, AGRICOLA, CABA,
CROPB, CROPR, CROPU, FSTA, FROSTI, LIFESCI' ENTERED AT 17:44:42 ON 26 MAY
2005

L14 4 SEA ABB=ON L11
L15 4 DUP REMOV L14 (0 DUPLICATES REMOVED)
L16 4 SEA ABB=ON L13 OR L14 *4 cit's from above d.b's*

FILE HCAPLUS

FILE COVERS 1907 - 26 May 2005 VOL 142 ISS 22

FILE LAST UPDATED: 25 May 2005 (20050525/ED)

New CAS Information Use Policies, enter HELP USAGETERMS for details.

This file contains CAS Registry Numbers for easy and accurate
substance identification.

FILE REGISTRY

Property values tagged with IC are from the ZIC/VINITI data file
provided by InfoChem.

STRUCTURE FILE UPDATES: 25 MAY 2005 HIGHEST RN 851163-60-5

DICTIONARY FILE UPDATES: 25 MAY 2005 HIGHEST RN 851163-60-5

New CAS Information Use Policies, enter HELP USAGETERMS for details.

FILE MEDLINE

FILE LAST UPDATED: 26 MAY 2005 (20050526/UP). FILE COVERS 1950 TO DATE.

On December 19, 2004, the 2005 MeSH terms were loaded.

The MEDLINE reload for 2005 is now available. For details enter HELP RLOAD at an arrow prompt (=>). See also:

<http://www.nlm.nih.gov/mesh/>
http://www.nlm.nih.gov/pubs/techbull/nd04/nd04_mesh.html

OLDMEDLINE now back to 1950.

MEDLINE thesauri in the /CN, /CT, and /MN fields incorporate the MeSH 2005 vocabulary.

FILE BIOSIS

FILE COVERS 1969 TO DATE.

CAS REGISTRY NUMBERS AND CHEMICAL NAMES (CNS) PRESENT FROM JANUARY 1969 TO DATE.

RECORDS LAST ADDED: 25 May 2005 (20050525/ED)

FILE RELOADED: 19 October 2003.

FILE EMBASE

FILE COVERS 1974 TO 19 May 2005 (20050519/ED)

FILE WPIDS

FILE LAST UPDATED: 24 MAY 2005 <20050524/UP>

MOST RECENT DERWENT UPDATE: 200533 <200533/DW>

DERWENT WORLD PATENTS INDEX SUBSCRIBER FILE, COVERS 1963 TO DATE

>>> FOR INFORMATION ON ALL DERWENT WORLD PATENTS INDEX USER

FILE JICST-EPLUS

FILE COVERS 1985 TO 23 MAY 2005 (20050523/ED)

THE JICST-EPLUS FILE HAS BEEN RELOADED TO REFLECT THE 1999 CONTROLLED TERM (/CT) THESAURUS RELOAD.

FILE JAPIO

FILE LAST UPDATED: 18 MAY 2005 <20050518/UP>

FILE COVERS APR 1973 TO JANUARY 27, 2005

<<< GRAPHIC IMAGES AVAILABLE >>>

FILE AGRICOLA

FILE COVERS 1970 TO 6 Apr 2005 (20050406/ED)

FILE CABA

FILE COVERS 1973 TO 6 May 2005 (20050506/ED)

The CABA file was reloaded 7 December 2003. Enter HELP RLOAD for details.

FILE CROPB

FILE LAST LOADED: 11 NOV 94 <941111/UP>

>>> EFFECTIVE JAN 1, 2004, THE 70% DISCOUNT FOR
DERWENT CROP PROTECTION SUBSCRIBERS WILL BE NO
LONGER VALID <<<

FILE CROPR
FILE LAST RELOADED: 17 FEB 2004 <20040217/UP>

>>> EFFECTIVE JAN 1, 2004, THE 70% DISCOUNT FOR
DERWENT CROP PROTECTION SUBSCRIBERS WILL BE NO
LONGER VALID <<<

FILE CROPU
FILE LAST UPDATED: 5 JAN 2004 <20040105/UP>
FILE COVERS 1985 TO 2003

>>> CROPU WILL NO LONGER BE UPDATED AS OF 2004 <<<

FILE FSTA
FILE LAST UPDATED: 23 MAY 2005 <20050523/UP>
FILE COVERS 1969 TO DATE.

FILE FROSTI
FILE LAST UPDATED: 25 MAY 2005 <20050525/UP>
FILE COVERS 1972 TO DATE.

FILE LIFESCI
FILE COVERS 1978 TO 16 May 2005 (20050516/ED)

=> d que stat l11

L8 1 SEA FILE=REGISTRY ABB=ON CHITOSAN/CN
 L9 1 SEA FILE=REGISTRY ABB=ON WATER/CN
 L10 775 SEA FILE=HCAPLUS ABB=ON (L8 OR ?CHITOSAN?) (6A) ((L9 OR ?WATER?
 OR H2O) (W)?SOLUB?)
 L11 2 SEA FILE=HCAPLUS ABB=ON L10 AND ?ENDOTOXIN?

=> d ibib abs l11 1-2

L11 ANSWER 1 OF 2 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2005:325743 HCAPLUS

DOCUMENT NUMBER: 142:375458

TITLE: **Water-soluble chitosan**

having low **endotoxin** concentration and
 methods for making and using the same

INVENTOR(S): Hung, William M.; Bergbauer, Katrina L.; Su, Kai C.;
 Wang, Guigui; Wages, Sherry

PATENT ASSIGNEE(S): USA

SOURCE: U.S. Pat. Appl. Publ., 11 pp.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2005080245	A1	20050414	US 2003-681560	20031008
WO 2005034865	A2	20050421	WO 2004-US32898	20041005
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
PRIORITY APPLN. INFO.: US 2003-681560 A 20031008				

AB A method of making **water-soluble chitosan**

comprises steps of (A) contacting water-insol. chitosan with a basic
 solution, (B) rinsing the water-insol. chitosan to remove any residual basic
 solution, (C) partially acetylating the water-insol. chitosan in a reaction
 solution containing a phase transfer catalyst to form partially acetylated
water-soluble chitosan, (D) dissolving the
 partially acetylated **water-soluble chitosan** in
 an aqueous solution containing a surfactant, (E) adjusting a pH of the aqueous
 solution to a

pH of ≥ 7.0 , (F) adding a water-miscible solvent into the aqueous solution,
 (G) further adjusting the pH of the aqueous solution to a pH of ≥ 8.0 to
 cause precipitation of **water-soluble chitosan** having
 low **endotoxin** content, (H) separating the **water-sol**
chitosan having low **endotoxin** content from the aqueous
 solution, and (I) washing the **water-soluble chitosan**
 having low **endotoxin** content with the water-miscible solvent. A
 pharmaceutically acceptable solution comprises this **water-**
soluble chitosan and a buffer material.

L11 ANSWER 2 OF 2 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1995:347903 HCAPLUS

DOCUMENT NUMBER: 122:96084

TITLE: **Water soluble endotoxin-chitosan** complexes and their action on platelet aggregation

AUTHOR(S): Yermak, I. M.; Gorbach, V. I.; Polyakova, A. M.; Astrina, O. S.; Luk'yanov, P. A.; Solov'eva, T. F.; Maleev, V. V.; Ovodov, Yu. S.

CORPORATE SOURCE: Pac. Inst. Bioorg. Chem., Far East Branch Russian Acad. Sci., Vladivostok, 690022, Russia

SOURCE: Biologicheskie Membrany (1994), 11(5), 496-500
CODEN: BIMEE9; ISSN: 0233-4755

PUBLISHER: Nauka

DOCUMENT TYPE: Journal

LANGUAGE: Russian

AB Formation of stable complexes between lipopolysaccharides as **endotoxins** of Escherichia coli and Yersinia pseudotuberculosis and chitosan in aqueous solution was demonstrated using sedimentation technique.

The ratio of LPS and chitosan in the complexes was shown to vary within the range of 1:1 to 1:5 (weight/weight) in the relation to the concentration of the components used. The effect of LPS, chitosan, and the complex LPS-chitosan on the aggregation of platelets was studied in expts. in vitro. The platelet aggregation with LPS was found to increase by an average of 11% in comparison with the control tests while the LPS-chitosan complex was shown to decrease the aggregation ability of platelets by an average of 8% at least. Thus, the data demonstrating chitosan and its complexes with **endotoxins** may be successfully applied for the protection of blood cells from heavy damage by **endotoxins** of gram-neg. bacteria.

=> d que stat l16

L8 1 SEA FILE=REGISTRY ABB=ON CHITOSAN/CN
 L9 1 SEA FILE=REGISTRY ABB=ON WATER/CN
 L10 775 SEA FILE=HCAPLUS ABB=ON (L8 OR ?CHITOSAN?) (6A) ((L9 OR ?WATER?
 OR H2O) (W)?SOLUB?)
 L11 2 SEA FILE=HCAPLUS ABB=ON L10 AND ?ENDOTOXIN?
 L12 4 SEA L11
 L13 4 DUP REMOV L12 (0 DUPLICATES REMOVED)
 L14 4 SEA L11
 L16 4 SEA L13 OR L14

=> d ibib abs l16 1-4

L16 ANSWER 1 OF 4 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on STN
 ACCESSION NUMBER: 1995:225541 BIOSIS
 DOCUMENT NUMBER: PREV199598239841
 TITLE:

**Water soluble endotoxin-
 chitosan** complexes and their action on platelet
 aggregation.

AUTHOR(S): Ermak, I. M. [Reprint author]; Gorbach, V. I. [Reprint
 author]; Polyakova, A. M.; Astrina, O. S.; Luk'yanov, P. A.
 [Reprint author]; Solov'eva, T. F. [Reprint author];
 Maleev, V. V.; Ovodov, Yu. S.

CORPORATE SOURCE: Pac. Inst. Bioorg. Chem., Far East Div., Russ. Acad. Sci.,
 Vladivostok 690022, Russia

SOURCE: Biologicheskije Membrany (Moscow), (1994) Vol. 11, No. 5,
 pp. 496-500.

CODEN: BIMEE9. ISSN: 0233-4755.

DOCUMENT TYPE: Article

LANGUAGE: Russian

ENTRY DATE: Entered STN: 31 May 1995

Last Updated on STN: 31 May 1995

AB Formation of stable complexes between lipopolysaccharides as
endotoxins of Escherichia coli and Yersinia pseudotuberculosis and
 chitozan in aqueous solution was demonstrated using sedimentation
 technique. The ratio of LPS and chitozan in the complexes was shown to
 vary within the range of 1:1 to 1:5 (w/w) in the relation to the
 concentration of the components used. The effect of LPS, chitozan and the
 complex LPS-chitozan on the aggregation of platelets was studied in
 experiments in vitro. The platelet aggregation with LPS was found to
 increase by an average of 11% in comparison with the control tests while
 the LPS-chitozan complex was shown to decrease the aggregation ability of
 platelets by an average of 8% at least. Thus, our data demonstrating
 chitozan and its complexes with **endotoxins** may be successfully
 applied for the protection of blood cells from heavy damage by
endotoxins of gram-negative bacteria.

L16 ANSWER 2 OF 4 WPIDS COPYRIGHT 2005 THE THOMSON CORP on STN

ACCESSION NUMBER: 1995-077321 [11] WPIDS

DOC. NO. NON-CPI: N1995-061224

DOC. NO. CPI: C1995-034426

TITLE: Selective **endotoxin** absorber - comprises
 chitosan containing amino gps. fixed on water insol. carrier.

DERWENT CLASS: A11 A96 B07 J01 P34

PATENT ASSIGNEE(S): (TOYM) TOYOBO KK

COUNTRY COUNT: 1

PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
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 JP 07000816 A 19950106 (199511)* 8

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
JP 07000816	A	JP 1992-56939	19920206

PRIORITY APPLN. INFO: JP 1992-56939 19920206

AN 1995-077321 [11] WPIDS

AB JP 07000816 A UPAB: 19950322

A chitosan of mol.weight of 1000-20000, and containing amino gps. in an amount of 0.05-3.00 meq/g. is fixed on a water-insol. carrier.

Pref. aldehyde cellulose (CA-1) is obtd. by adding porous cellulose grain to Na periodate. Cellulose-chitosan cpd. was obtd. by adding CA-1, to chitosan dissolved in buffer solution

USE/ADVANTAGE - The absorber removes **endotoxin** selectively, and may be used for medical applications and for refining of solution etc. Dwg.0/0

L16 ANSWER 3 OF 4 WPIDS COPYRIGHT 2005 THE THOMSON CORP on STN

ACCESSION NUMBER: 1993-003784 [01] WPIDS

DOC. NO. CPI: C1993-001737

TITLE: Porous chitosan moulded body - prepared by mixing chitosan aqueous solution with water-insol. volatile organic cpd., moulding and drying.

DERWENT CLASS: A11 A96 J01

PATENT ASSIGNEE(S): (KURK) KURITA WATER IND LTD

COUNTRY COUNT: 1

PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
JP 04330936	A	19921118 (199301)*			3

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
JP 04330936	A	JP 1991-98813	19910430

PRIORITY APPLN. INFO: JP 1991-98813 19910430

AN 1993-003784 [01] WPIDS

AB JP 04330936 A UPAB: 19931118

The body consists of porous chitosan with macropores of 1 - several tens of microns in a three dimensional reticulate structure. A chitosan aqueous solution is mixed with an organic cpd. which is water-insoluble and volatile to form an oil in water type emulsion which is flowed and dried to produce the body.

USE/ADVANTAGE - The body adsorbs macromolecules such as protein, **endotoxin**, and nucleic acid in a high amount, so it is useful industrially.

In an example, chitosan (eta = 21 dl/g, deacetylation degree 87 mol.%) 0.5 g was added to pure water 100 ml. Glacial acetic acid 0.5 g was added to form a 5 w/v % chitosan aqueous solution To the solution 60 ml, 0.5

w/v% nonipole 110 (RTM) containing decalin 40 ml was added and stirred with 4,000 r.p.m./min., and made into an o/w type emulsion. The emulsion 10 ml. was poured in a glass dish of dia. 10 cm, and heated and dried at 80 deg.C for 2 hours. A white thin membrane having 1 - several microns macropores was obt
Dwg.0/0

L16 ANSWER 4 OF 4 WPIDS COPYRIGHT 2005 THE THOMSON CORP on STN
ACCESSION NUMBER: 1985-050569 [09] WPIDS
DOC. NO. CPI: C1985-022048
TITLE: Plasminogen-activating proteinase enzymes e.g. urokinase purification - by selective adsorption of immobilised chondroitin sulphate, chitin or chitosan.
DERWENT CLASS: B04 D16
INVENTOR(S): STOCKER, K F
PATENT ASSIGNEE(S): (PENT-N) PENTAPHARM AG
COUNTRY COUNT: 1
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
CH 647548	A	19850131	(198509)*		5

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
CH 647548	A	CH 1980-907	19800205

PRIORITY APPLN. INFO: CH 1980-907 19800205

AN 1985-050569 [09] WPIDS

AB CH 647548 A UPAB: 19930925

In the production of pure plasminogen-activating proteinases from plasminogen-activating materials additionally containing foreign substances, (A) the plasminogen-activating material is taken up in a first aqueous medium and separated from any undissolved solids; (B) the solution is contacted with a separating agent consisting of insolubilised chondroitin sulphate bound to a **water-insoluble** carrier or of chitin or **chitosan**, in order to bind the plasminogen-activating proteinase to the separating agent; and (C) the plasminogen-activating proteinase is separated from the separating agent by means of a second aqueous medium.

USE/ADVANTAGE - Plasminogen-activating proteinases such as urokinase convert plasminogen into plasmin and are capable of effecting the dissolution of blood clots. Urokinase is used as a medicament for the treatment of thromboembolic disorders. The specified proteinases have a strong affinity for plasminogen-activating proteinases such as thrombin-like snake-venom proteinase, fibrinolytic impurities in thrombin preps. and urokinase, but no affinity for bacterial **endotoxins** (pyrogens), kallikrein, trypsin and other proteins contained in crude urokinase or in urine.

0/0

=> d ibib abs ind l6 1-1

L6 ANSWER 1 OF 1 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 2005:325743 HCAPLUS
 DOCUMENT NUMBER: 142:375458
 TITLE: Water-soluble chitosan having low endotoxin
 concentration and methods for making and using the
 same
 INVENTOR(S): Hung, William M.; Bergbauer, Katrina
 L.; Su, Kai C.; Wang, Guigui;
 Wages, Sherry
 PATENT ASSIGNEE(S): USA
 SOURCE: U.S. Pat. Appl. Publ., 11 pp.
 CODEN: USXXCO
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2005080245	A1	20050414	US 2003-681560	20031008
WO 2005034865	A2	20050421	WO 2004-US32898	20041005

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH,
 CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD,
 GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,
 LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI,
 NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY,
 TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
 RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM,
 AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK,
 EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE,
 SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE,
 SN, TD, TG

PRIORITY APPLN. INFO.: US 2003-681560 A 20031008
 AB A method of making water-soluble chitosan comprises steps of (A) contacting
 water-insol. chitosan with a basic solution, (B) rinsing the water-insol.
 chitosan to remove any residual basic solution, (C) partially acetylating the
 water-insol. chitosan in a reaction solution containing a phase transfer
 catalyst
 to form partially acetylated water-soluble chitosan, (D) dissolving the
 partially acetylated water-soluble chitosan in an aqueous solution containing a
 surfactant, (E) adjusting a pH of the aqueous solution to a pH of ≥ 7.0 ,
 (F) adding a water-miscible solvent into the aqueous solution, (G) further
 adjusting the pH of the aqueous solution to a pH of ≥ 8.0 to cause
 precipitation of
 water-soluble chitosan having low endotoxin content, (H) separating the
 water-soluble
 chitosan having low endotoxin content from the aqueous solution, and (I)
 washing
 the water-soluble chitosan having low endotoxin content with the
 water-miscible solvent. A pharmaceutically acceptable solution comprises
 this water-soluble chitosan and a buffer material.
 IC ICM C08B037-08
 INCL 536020000
 CC 44-5 (Industrial Carbohydrates)
 ST water soluble chitosan low endotoxin concn
 IT Toxins
 RL: MSC (Miscellaneous)

(endotoxins; water-soluble chitosan having low endotoxin concentration and methods for making and using same)

IT Phase transfer catalysts

Surfactants

(water-soluble chitosan having low endotoxin concentration and methods for making

and using same)

IT Crown ethers

Phosphonium compounds

Quaternary ammonium compounds, uses

RL: CAT (Catalyst use); USES (Uses)

(water-soluble chitosan having low endotoxin concentration and methods for making

and using same)

IT 9005-64-5, Polyoxyethylene sorbitan monolaurate

RL: NUU (Other use, unclassified); USES (Uses)

(surfactant; water-soluble chitosan having low endotoxin concentration and methods for making and using same)

IT 1643-19-2, Tetrabutylammonium bromide 16969-45-2, Pyridinium

RL: CAT (Catalyst use); USES (Uses)

(water-soluble chitosan having low endotoxin concentration and methods for making

and using same)

IT 9012-76-4P, Chitosan

RL: IMF (Industrial manufacture); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(water-soluble chitosan having low endotoxin concentration and methods for making

and using same)

IT 108-24-7, Acetic anhydride 1310-73-2, Sodium hydroxide, uses

RL: NUU (Other use, unclassified); USES (Uses)

(water-soluble chitosan having low endotoxin concentration and methods for making

and using same)